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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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07/945,465 09/16/92 SEGATTA

T 91221A

EXAMINER  
ROBEY, R

13M1/0812

GOODYEAR TIRE & RUBBER COMPANY  
PATENT & TRADEMARK DEPT.  
DEPT. 823  
AKRON, OHIO 44316

ART UNIT PAPER NUMBER

1301

DATE MAILED: 08/12/93

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on \_\_\_\_\_ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), \_\_\_\_\_ day(s) from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

**Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.                 | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152.       |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/> _____   |

**Part II SUMMARY OF ACTION**

1. ☒ Claims 1-8 are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2. ☐ Claims \_\_\_\_\_ have been cancelled.

3. ☐ Claims \_\_\_\_\_ are allowed.

4. ☒ Claims 1-8 are rejected.

5. ☐ Claims \_\_\_\_\_ are objected to.

6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

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15. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

16. Applicant's arguments with respect to claims 1-8 have been considered but are deemed to be moot in view of the new grounds of rejection.

17. Claims 1-8 are rejected under 35 U.S.C. § 103 as being unpatentable over Sandstrom et al in view of either of European Patent 410,311, European Patent 461,329, or Japanese Publication 1-135847.

As noted in the previous Office Action, Sandstrom et al teach a tread rubber composition comprising (A) about 50 to 95 parts by weight of at least one diene rubber and (B) about 5 to 50 of trans 1, 4-polybutadiene having at least a 70% trans 1,4-content, wherein the trans 1,4-polybutadiene has about 75 to 85% of a trans 1,4-structure, 12 to 18% of a 1,2-structure and 3 to 8% of a cis 1,4-structure. Sandstrom et al also teach a method for molding a tire (col 3, lines 20-35). Although Sandstrom et al do not teach that the rubber composition should be used in the apex region, it is not uncommon for compositions disclosed for the tread region to be found to be applicable in the apex region of a tire. Note that European Patent 410,311, European Patent 461,329 and Japanese Publication 1-135847 all disclose rubber

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compositions suitable for the bead and/or apex region of the tire as well as the tread, tread base, side wall and belt regions. It would have been obvious for one of ordinary skill in the art at the time of invention to find an application of the composition of Sandstrom in the bead area, as it is known for compositions disclosed for use in the tread area of the tire to be suitable for use in the tire apex.

18. Claims 1-8 are rejected under 35 U.S.C. § 103 as being unpatentable over Yasuda in view of Sandstrom et al.

Yasuda teaches a rubber composition for the apex region of a tire comprising a number of additives (carbon black, sulfur, a metal salt of acrylic acid) based on a rubber blend of natural rubber and not more than 50% of a synthetic diene rubber. As noted above in paragraph 17, Sandstrom et al teach a synthetic diene rubber (trans 1,4-polybutadiene)/natural rubber blend. As Sandstrom et al teach that trans 1,4-polybutadiene is often used to increase green strength, one in the art would recognize it to be useful in the composition of Yasuda. As such a combination results in a composition substantially similar to the composition of Sandstrom et al, it is the Examiner's position that the recited melting point limitations would be inherent to the rubber composition. It would have been obvious to one of ordinary skill

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in the art at the time of invention to use the synthetic diene rubber of Sandstrom et al in the apex rubber blend of Yasuda so as to improve green strength of the rubber, and in view of the fact that Yasuda suggests a natural rubber/synthetic diene rubber blend.

19. Claims 1-8 are rejected under 35 U.S.C. § 103 as being unpatentable over Japanese Publication 57-212239 in view of Sandstrom et al.

Japanese Publication 57-212239 teaches a rubber composition which comprises 70 to 95 parts of natural rubber polyisoprene rubber or polybutadiene rubber and 30 to 5 parts of a liquid diene type rubber. Specifically, the publication teaches that the diene type rubber may be polybutadiene. (page 2, lower left hand block of text, lines 11-20). Sandstrom et al teach that trans 1,4-polybutadiene is well known for improving green strength of rubber mixtures, and thus would be well suited for use in the bead filler of the Japanese Publication.

Additionally, as noted above in paragraph 17, Sandstrom et al teach a molding process for a tire. It would have been obvious to one of ordinary skill in the art at the time of invention to use the trans 1,4-polybutadiene of Sandstrom et al as the liquid diene type rubber required by Japanese Publication 57-212239 as

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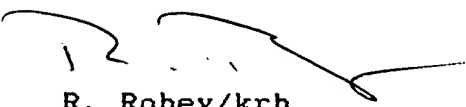
such would impart increased green strength to the head rubber composition, and to mold the tire according to a known method such as the method of Sandstrom et al.

As such a combination of references results in a composition essentially similar to that of applicants', it is the Examiner's position that the recited melting point limitations would be inherent to the rubber composition.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Robey whose telephone number is (703) 308-4788.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0651.

  
MICHAEL W. BALL  
SUPERVISORY PATENT EXAMINER  
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R. Robey/krb  
August 11, 1993